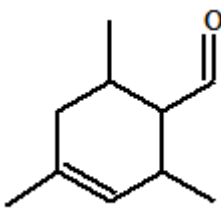
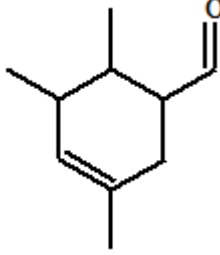


Isocyclocitral

CAS N°:	1335-66-6	Empirical formula: C ₁₀ H ₁₆ O	Structure:	1335-66-6:	
	1423-46-7				
	67634-07-5				
Synonyms:	1335-66-6 1-Formyl-[2,4,6-]&[3,5,6]-trimethyl-3-cyclohexene Isocyclocitral [2,4,6-]&[3,5,6]-Trimethyl-3-cyclohexene-1-carboxaldehyde 1423-46-7 3-Cyclohexene-1-carboxaldehyde, 2,4,6-trimethyl- Neocyclocitral 2,4,6-Trimethylcyclohex-3-enecarbaldehyde 2,4,6-Trimethyl-3-cyclohexenylcarboxaldehyde 2,4,6-Trimethyl-3-cyclohexene-1-carbaldehyde 67634-07-5 3-Cyclohexene-1-carboxaldehyde, 3,5,6-trimethyl- 3,5,6-Trimethylcyclohex-3-ene-1-carbaldehyde				

History:	Initial reviews:	New Standard		
	Current revision date:	2007		
	Implementation date:	For new submissions*:	June 16, 2007	
		For existing fragrance compounds*:	June 16, 2009	
	Next review date	2012		

* This date applies to the supply of fragrance compounds (formulas) only, not to the finished products in the marketplace.

RECOMMENDATION:
RESTRICTED

Isocyclocitral

RESTRICTIONS:

Limits in the finished product:			
Category 1 See Note box (1)	0.2 %	Category 7	0.5 %
Category 2	0.3 %	Category 8	2.0 %
Category 3	1.1 %	Category 9	5.0 %
Category 4	3.2 %	Category 10	2.5 %
Category 5	1.7 %	Category 11	See Note Box (2)
Category 6	5.1 %		
Note box:			
<p>(1) IFRA would recommend that any material used to impart perfume or flavour in products intended for human ingestion should consist of ingredients that are in compliance with appropriate regulations for foods and food flavourings in the countries of planned distribution and, where these are lacking, with the recommendations laid down in the Code of Practice of IOFI (International Organisation of the Flavor Industry) http://www.iofiorg.org/</p> <p>(2) Category 11 includes all non-skin contact or incidental skin contact products. Due to the negligible skin contact from these types of products there is no justification for a restriction of the concentration of this fragrance ingredient in the finished product.</p>			
Fragrance material specifications:		N/A	

CONTRIBUTION FROM OTHER SOURCES:

None to consider (see also the note on contributions from other sources in the **Introduction to the IFRA Standards**)

CRITICAL EFFECT:	SENSITIZATION
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RIFM SUMMARIES:

Isocyclocitral - Sensitization Potency Estimation Based on Weight of Evidence

LLNA weighted mean EC3 values (µg/cm ²) [no. studies]	Potency Classification Based on Animal Data ²	Human Data			WoE NESIL ³ (µg/cm ²)
		NOEL – HRIPT (induction) (µg/cm ²)	NOEL – HMT (induction) (µg/cm ²)	LOEL ¹ (induction) (µg/cm ²)	
1825 [1]	Weak	7087	2759	NA	7000

NOEL = No observed effect level; HRIPT = Human Repeat Insult Patch Test; MAX = Human Maximization Test;

LOEL = lowest observed effect level; NA = Not Available

¹ Data derived from HRIPT or Human Max tests

² Gerberick *et al.*, 2001

³ WoE NESIL limited to two significant figures

REXPAN RATIONALE / CONCLUSION:

The RIFM Expert Panel reviewed the critical effect data for isocyclocitral and, based on the weight of evidence, established the No Expected Sensitization Induction Level (NESIL) as 7000 µg/cm². They recommend the limits for the 11 different product categories, which are the acceptable use levels of isocyclocitral in the various product categories. These were derived from the application of the exposure-based quantitative risk assessment approach for fragrance ingredients, which is detailed in the QRA Expert Group Technical Dossier of June 22, 2006.

Isocyclocitral

REFERENCES:

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RIFM (Research Institute for Fragrance Materials, Inc.), 1972. The contact-sensitization potential of fragrance materials by maximization testing in humans. RIFM report number 1804, November 01 (RIFM, Woodcliff Lake, NJ, USA).

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